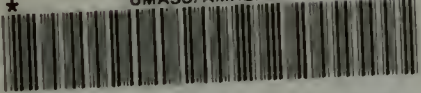


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FISCAL
YEAR **78**



ANNUAL EVALUATION REPORT

TITLE I

THE COMMONWEALTH OF MASSACHUSETTS

THE COMMONWEALTH OF MASSACHUSETTS

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Statistical data compiled by Richard S. Zusman, Educational Specialist

Edited, designed and produced by Joyce E. Wu, Consultant

Produced by the Bureau of Educational Information Services

Richard A. Gilman, *Director*

Cynthia F. Nadreau, *Publications Coordinator*

Susan M. Ridge, *Phototypesetter*

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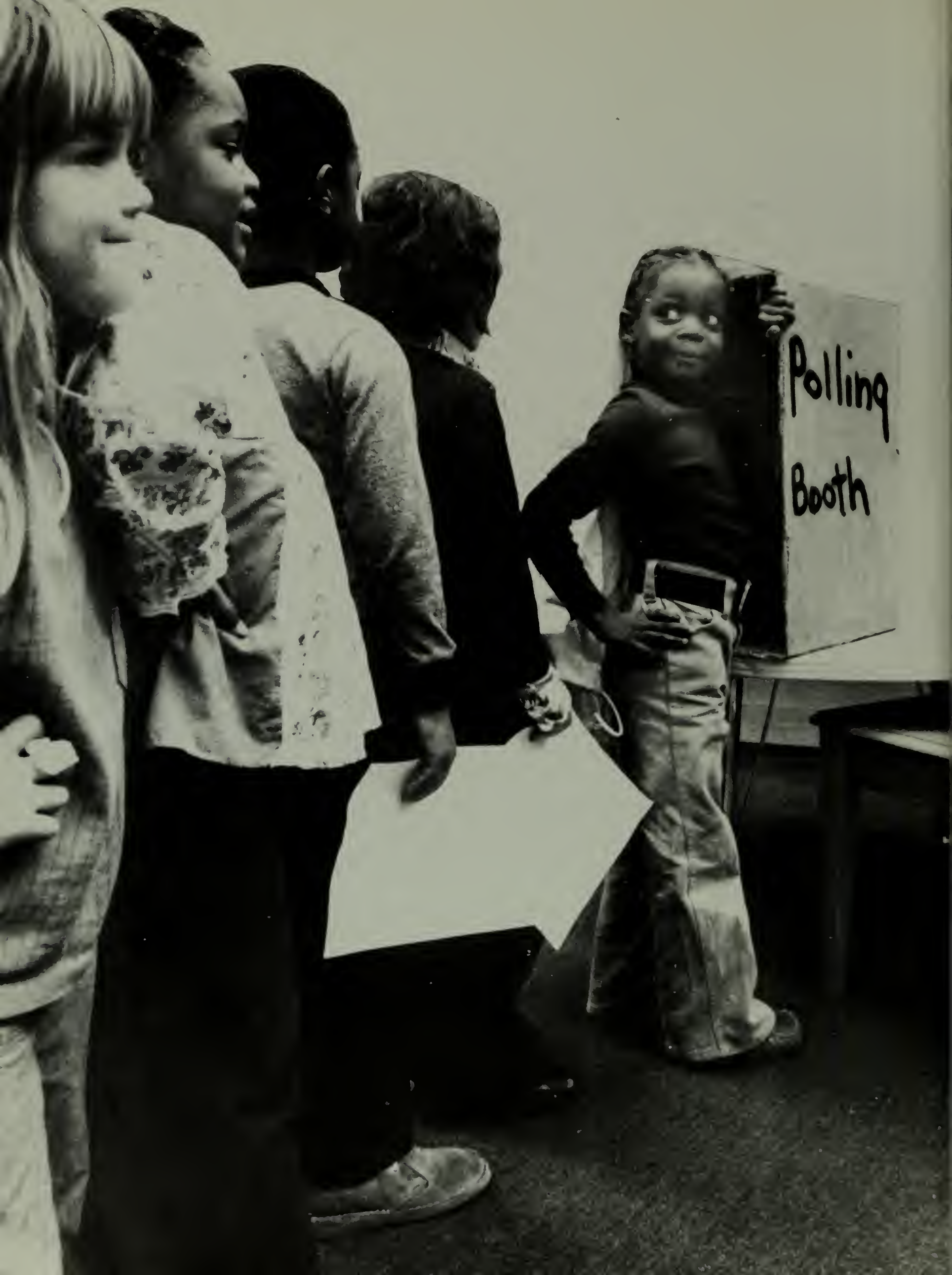
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MASSACHUSETTS TITLE I BASIC STATISTICS



A substantial number of educationally disadvantaged children throughout the Commonwealth of Massachusetts were served by Title I of the Elementary and Secondary Education Act [ESEA] during fiscal year 1978 [FY78].

Approximately 93% of the 338 local educational agencies [LEAs] in Massachusetts received entitlement to operate compensatory education

programs. A small percentage of the LEAs, 6.2% (21 LEAs), did not apply for their entitlement. [SEE TABLE I] Since this was the first year that regional vocational-technical schools were offered Title I funds, fifteen of them chose to return their funds to school districts within their regions. The remaining six LEAs had very small entitlements and did not choose to apply for these funds.

PARTICIPATION OF LOCAL EDUCATIONAL AGENCIES IN TITLE I

TABLE I

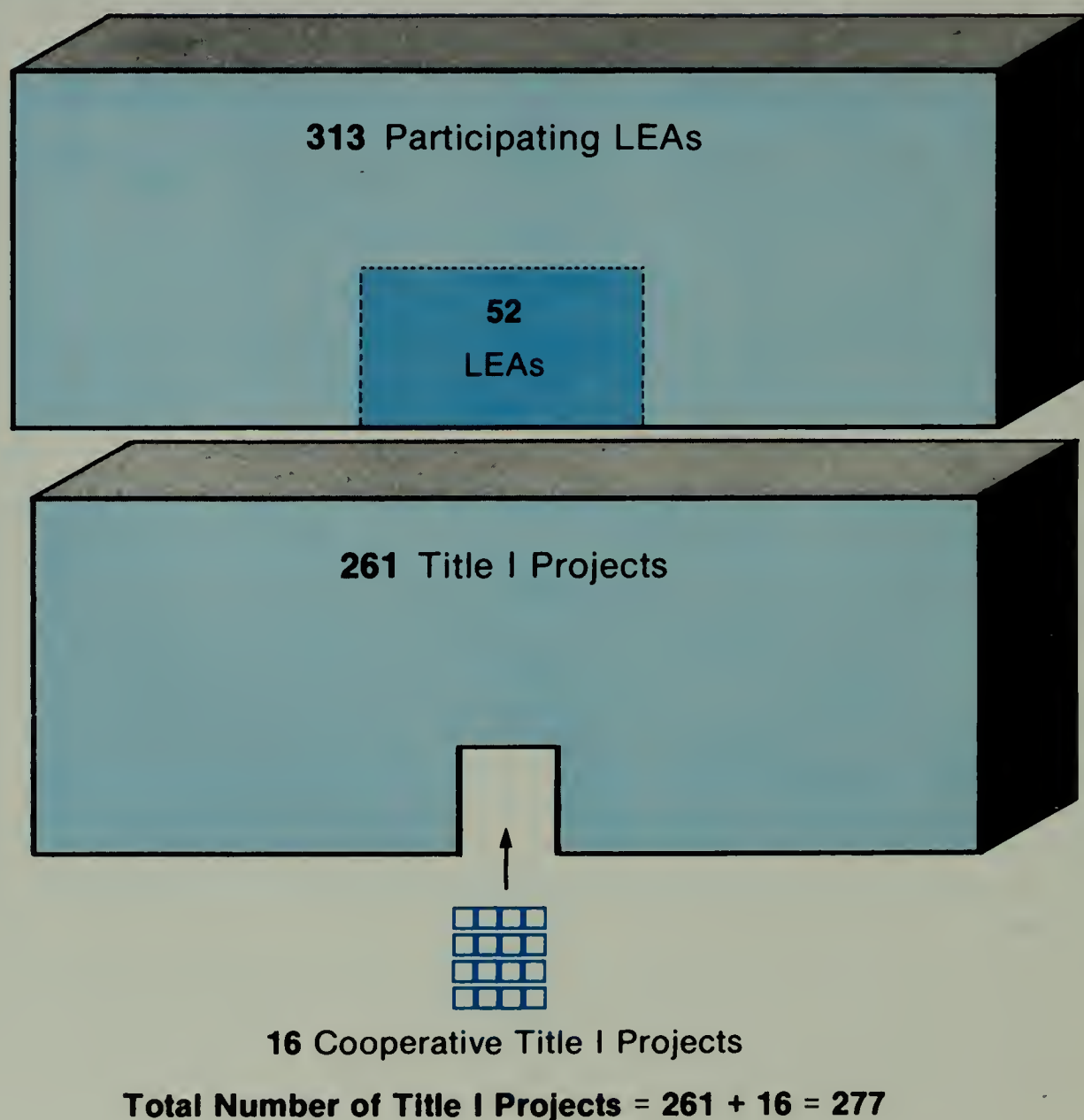
LOCAL EDUCATIONAL AGENCY [LEA] STATUS WITH RESPECT TO TITLE I GRANT

	NUMBER	PERCENTAGE
Total Number of LEAs	338	100.0
LEAs with No Entitlement	4	1.2
LEAs with Entitlement Not Applying for Title I Grant	21	6.2
Total Number of Participating LEAs	313	92.6

GOVERNMENT DOCUMENTS
COLLECTION
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University of Massachusetts
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FIGURE 1 illustrates the total number of LEAs which conducted Title I programs during FY78. Of the 313 participating LEAs, 52 local school districts decided to share their resources and form sixteen cooperative Title I programs. Therefore, there were actually 277 Title I programs in operation during the 1977-78 school year.

FIGURE 1
**DETERMINING THE TOTAL NUMBER
OF TITLE I PROJECTS**



location to each county (excluding homes and institutions) is based on the number of low-income children, ages 5-17, in the county. Approximately one-fourth of the state's total grant was earmarked for Suffolk County—Boston, Chelsea, Revere, and Winthrop. The amount of Title I money allocated to each county in the Commonwealth is shown in **TABLE II**.

ALLOCATIONS BY COUNTY

TABLE II
ALLOCATION OF TITLE I FUNDS

COUNTY	ALLOCATION
BARNSTABLE	\$ 868,274.55
BERKSHIRE	900,793.16
BRISTOL	3,652,645.37
DUKES	23,902.56
ESSEX	3,918,630.89
FRANKLIN	300,171.74
HAMPDEN	3,762,708.34
HAMPSHIRE	524,466.73
MIDDLESEX	6,548,468.85
NANTUCKET	31,128.92
NORFOLK	2,038,110.52
PLYMOUTH	2,205,150.54
SUFFOLK	9,445,959.94
WORCESTER	3,931,971.85
TOTAL	\$38,152,383.96

During FY78, over 95% of the 224 Title I projects which submitted their annual evaluation reporting forms to the State Department of Education were regular school year programs. Another 3.6% conducted both school year and summer programs. Only 0.9% reported conducting only a summer program.

TABLE III
FREQUENCY OF
SCHOOL YEAR AND SUMMER
TITLE I PROJECTS (1977-1978)

	NUMBER	PERCENTAGE
School Year Only Title I Programs	214	95.5
School Year and Summer Title I Programs	8	3.6
Summer Only Title I Programs	2	0.9
TOTAL Title I Programs Reporting	224	100.0

TITLE I PROJECTS

"Extra! Extra! Read All About Summer School"

This week in summer school we got our reading workbooks. We read a play about clowns and we drew pictures in sequence. If we finish all our work we can be the "Bionic Student of the day! We are practicing writing sentences. Some of us have "E.S.P"—

STUDENT PARTICIPATION

During FY78, 66,895 children attending both public and non-public schools participated in Title I programs. The unduplicated* count of these children is shown in **TABLE IV**. The greatest number—58,663—were enrolled in pre-kindergarten through grade 6.

TABLE IV
UNDUPLICATED COUNT OF
PUBLIC AND NON-PUBLIC COMBINED

	NUMBER	PERCENTAGE	CUMULATIVE PERCENTAGE
Pre-Kindergarten	1,136	1.7	01.7
Kindergarten	6,070	9.1	10.8
Grades: 1	9,934	14.9	25.7
2	10,123	15.1	40.8
3	9,406	14.1	54.9
4	8,813	13.2	68.1
5	7,710	11.5	79.6
6	5,471	8.2	87.8
7	2,380	3.5	91.3
8	2,299	3.4	94.7
9	1,412	2.1	96.8
10	915	1.4	98.2
11	424	0.6	98.8
12	327	0.5	99.3
Special Education	23	0.03	99.33
Dropouts	356	0.53	99.86
Others	96	0.14	100.00
<hr style="border-top: 1px dashed black;"/>			
TOTALS	66,895	100.00	

*Students who participated in more than one project in an LEA are counted only once.

FIGURE 2 shows that 44.1% of the Title I population were in grades 1–3, 32.9% in grades 4–6, and 11.5% in grades 7–12. In summary, it is apparent that the vast majority of the students participating in Title I were in the elementary grades. However, when compared to previous years' evaluation data, there was a slight increase in the percentage of secondary level students.

FIGURE 2
UNDUPLICATED COUNT OF PARTICIPATING CHILDREN
BY SELECTED GRADE LEVEL CATEGORIES
[PUBLIC AND NON-PUBLIC COMBINED]

Pre-kindergarten and
Kindergarten

10.8%

Grades 1–3

44.1%

Grades 4–6

32.9%

Grades 7–12

11.5%

Special Education, Dropouts, Other

0.7%

The unduplicated count of participating children enrolled in the public schools—60,286—represents 90% of the total Title I population. **[SEE TABLE V]** Of these students, 54.8% were in pre-kindergarten, kindergarten, and in grades 1–3; 32.4% were in grades 4–6, and only 12.8% in grades 7–12 and in the special education, dropouts, or other categories.

The unduplicated count of participating children enrolled in the non-public [parochial] schools was 6,609 students. **[SEE TABLE VI]** Approximately 93% were in grades pre-kindergarten–6.

TABLE V
ENROLLED IN
PUBLIC SCHOOLS

TABLE VI
ENROLLED IN
NON-PUBLIC SCHOOLS

	NUMBER	PERCENTAGE	CUMULATIVE PERCENTAGE		NUMBER	PERCENTAGE	CUMULATIVE PERCENTAGE
Pre-Kindergarten	1,074	1.8	1.8		62	0.94	0.94
Kindergarten	5,799	9.6	11.4		271	4.1	5.04
Grades: 1	8,774	14.6	26.0		1,160	17.6	22.64
2	8,993	14.9	40.9		1,130	17.1	39.74
3	8,358	13.9	54.8		1,048	15.9	55.64
4	7,789	12.9	67.7		1,024	15.5	71.14
5	6,709	11.1	78.8		1,001	15.1	86.24
6	5,041	8.4	87.2		430	6.5	92.74
7	2,159	3.6	90.8		221	3.3	96.04
8	2,093	3.5	94.3		206	3.1	99.14
9	1,405	2.3	96.6		7	0.11	99.25
10	908	1.5	98.1		7	0.11	99.36
11	424	0.7	98.8		0	0.0	99.36
12	327	0.5	99.3		0	0.0	99.36
Special Education	23	0.03	99.33		0	0.0	99.36
Dropouts	315	0.57	99.90		41	0.62	99.98
Others	95	0.10	100.00		1	0.02	100.00
TOTALS	60,286	100.00			6,609	100.00	

Student participation in each of the 16 major activity areas in which the 277 Title I projects were involved during FY78 is presented in **TABLE VII**. Clearly, Reading stands out as the major activity area of Title I in Massachusetts, involving the greatest number of students (58,262). Mathematics emerged as the second most frequent activity in which 21,026 Title I children participated. Other major activity areas in which over 5,000 children were involved include cultural enrichment (6,378 students), other language arts (6,594 students), and social and emotional development (5,152 students).

STUDENT PROJECT ACTIVITY AREAS

TABLE VII
**MAJOR ACTIVITY AREAS OFFERED
BY TITLE I PROJECTS**

PROJECT ACTIVITY AREA	TOTAL NO. OF CHILDREN INVOLVED
Reading	58,262
Mathematics	21,026
Cultural Enrichment	6,378
Physical Education or Recreation	1,596
Social and Emotional Development	5,152
Other Language Arts	6,594
Diagnosis of Learning or Emotional Problems	1,394
Food or Clothing Services	1,080
Crafts, Art, Music Or Dramatics	1,469
English as a Second Language	1,570
Other Academic Areas	1,949
Speech and Hearing	655
Science	96
Social Studies	376
Industrial Arts	0
Others	4,844
<hr/>	
Duplicated Count TOTAL	112,441

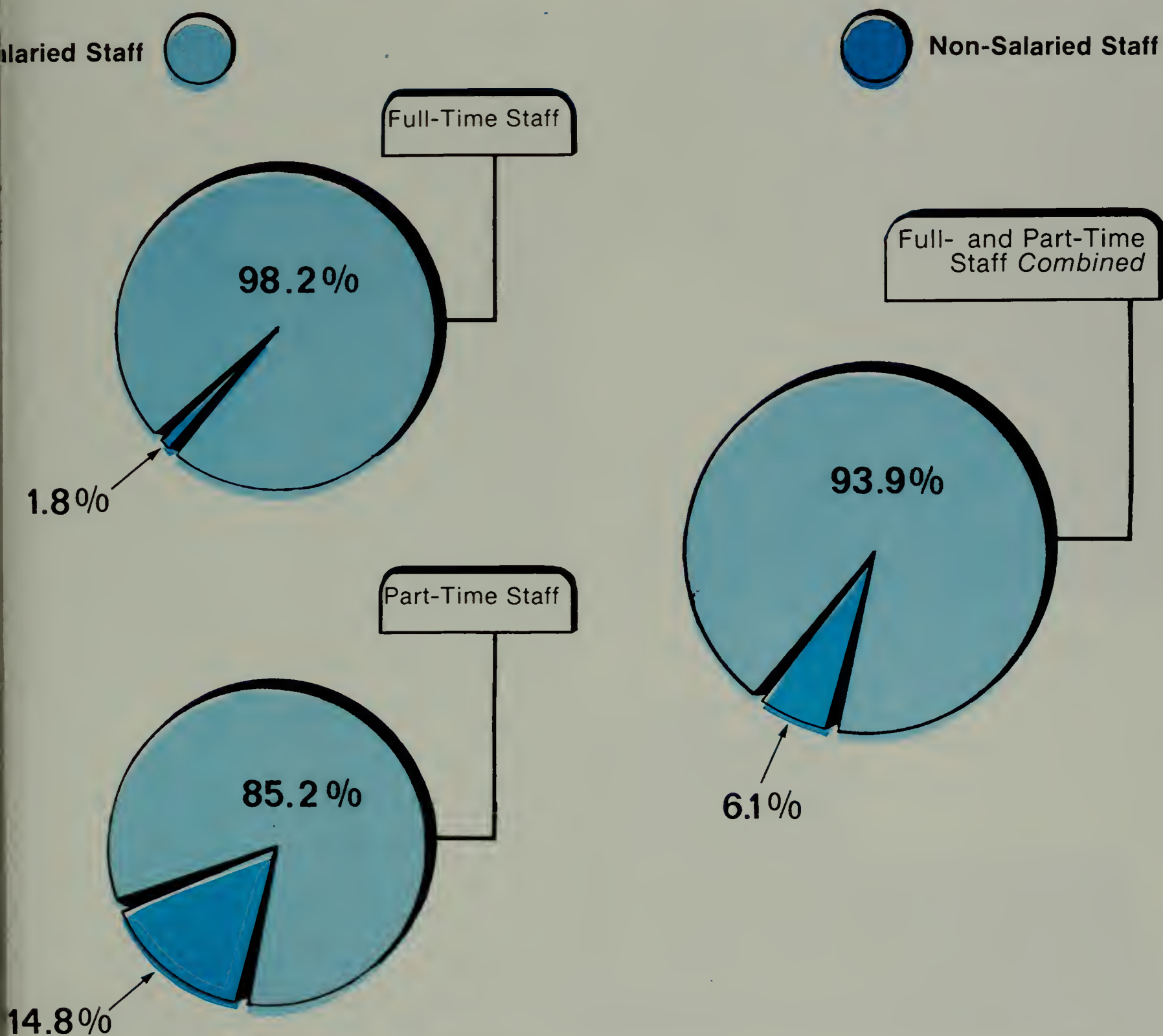
The types of Title I staff employed in either full- and part-time positions is presented in **TABLE VIII**. A little more than forty percent of the full-time staff were teacher aides; one-third were elementary teachers. Of the part-time personnel 28.4% were elementary teachers; 21.6% were teacher aides.

TABLE VIII
TYPES OF STAFF IN TITLE I PROJECTS
[SALARIED AND NON-SALARIED COMBINED]

STAFF	FULL-TIME		PART-TIME		TOTAL	
	NUMBER	PERCENTAGE	NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
Pre-Kindergarten Teachers	71	1.5	30	1.5	101	1.5
Kindergarten Teachers	214	4.4	55	2.8	269	3.9
Elementary Teachers	1,680	34.8	567	28.4	2,247	32.9
Secondary Teachers	197	4.1	29	1.5	226	3.3
Special Education Teachers	6	0.1	168	8.4	174	2.6
Reading Specialists	245	5.1	234	11.7	479	7.0
Speech Therapists	15	0.31	13	0.7	28	0.4
Librarians	7	0.14	7	0.3	14	0.2
Supervisors and Administrators	123	2.5	174	8.7	297	4.3
Counselors and Psychologists	138	2.8	41	2.1	179	2.6
Attendance and Social Workers	34	0.7	5	0.2	39	0.6
Physicians and Nurses	23	0.5	20	1.0	43	0.6
Teacher Aides	1,964	40.7	432	21.6	2,396	35.1
Library Aides	16	0.33	23	1.1	39	0.6
Others	98	2.02	200	10.0	298	4.4
TOTALS	4,831	100.0	1,998	100.0	6,829	100.0

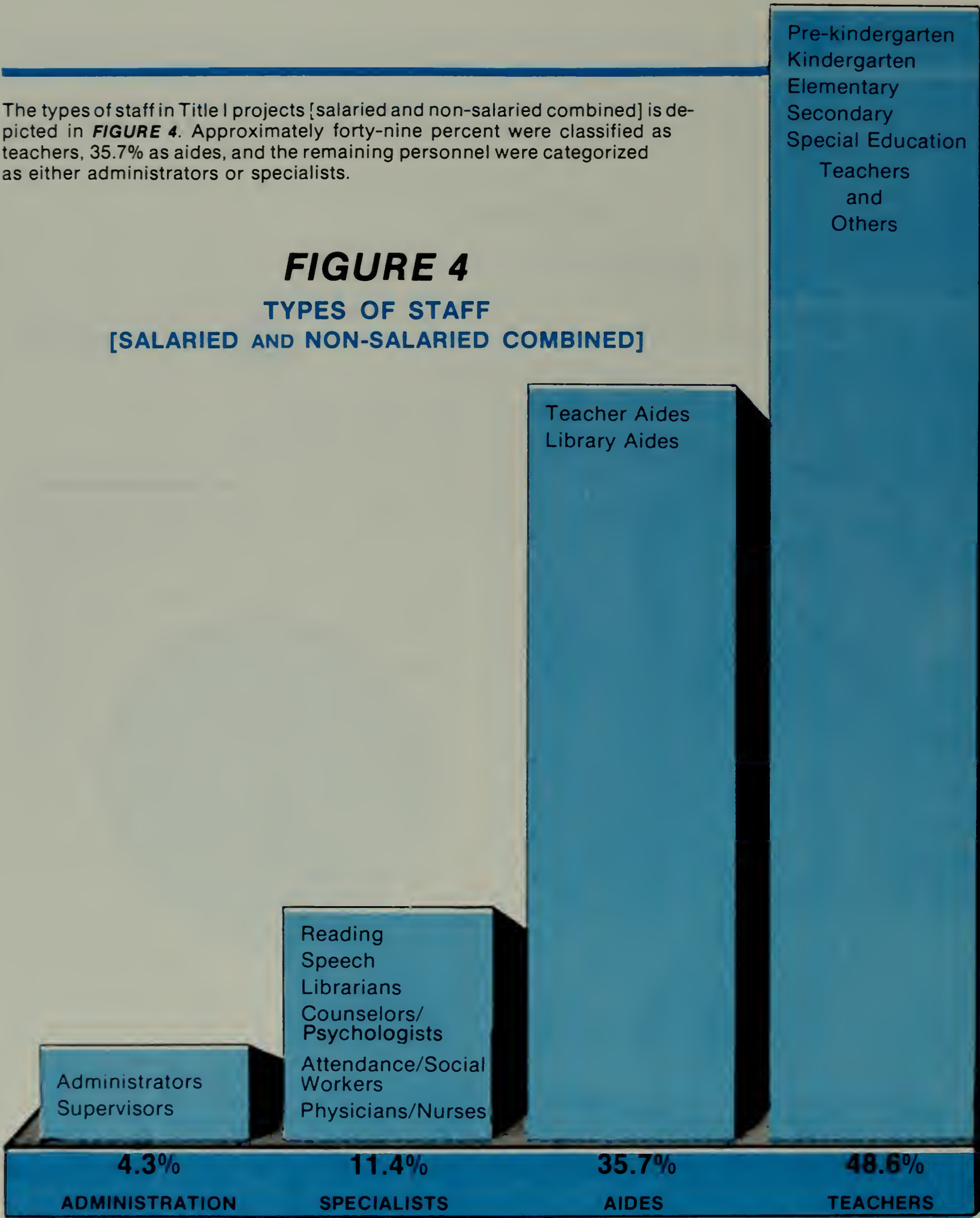
he salary status of both full- and part-time staff is illustrated in **FIGURE 3**. Over 98% of the full-time Title I staff were salaried, more than 85% of the part-time staff were salaried, and the combined percentage of full- and part-time salaried staff was about 94%.

FIGURE 3
SALARY STATUS OF TITLE I STAFF



The types of staff in Title I projects [salaried and non-salaried combined] is depicted in **FIGURE 4**. Approximately forty-nine percent were classified as teachers, 35.7% as aides, and the remaining personnel were categorized as either administrators or specialists.

FIGURE 4
TYPES OF STAFF
[SALARIED AND NON-SALARIED COMBINED]



NON-PUBLIC SCHOOL PARTICIPATION



According to the United States Office of Education guidelines, public school authorities are required to provide non-public school children with equitable opportunities to share the funded services available to public school children under the following regulations:

GUIDELINES FOR NON-PUBLIC SCHOOL PARTICIPATION

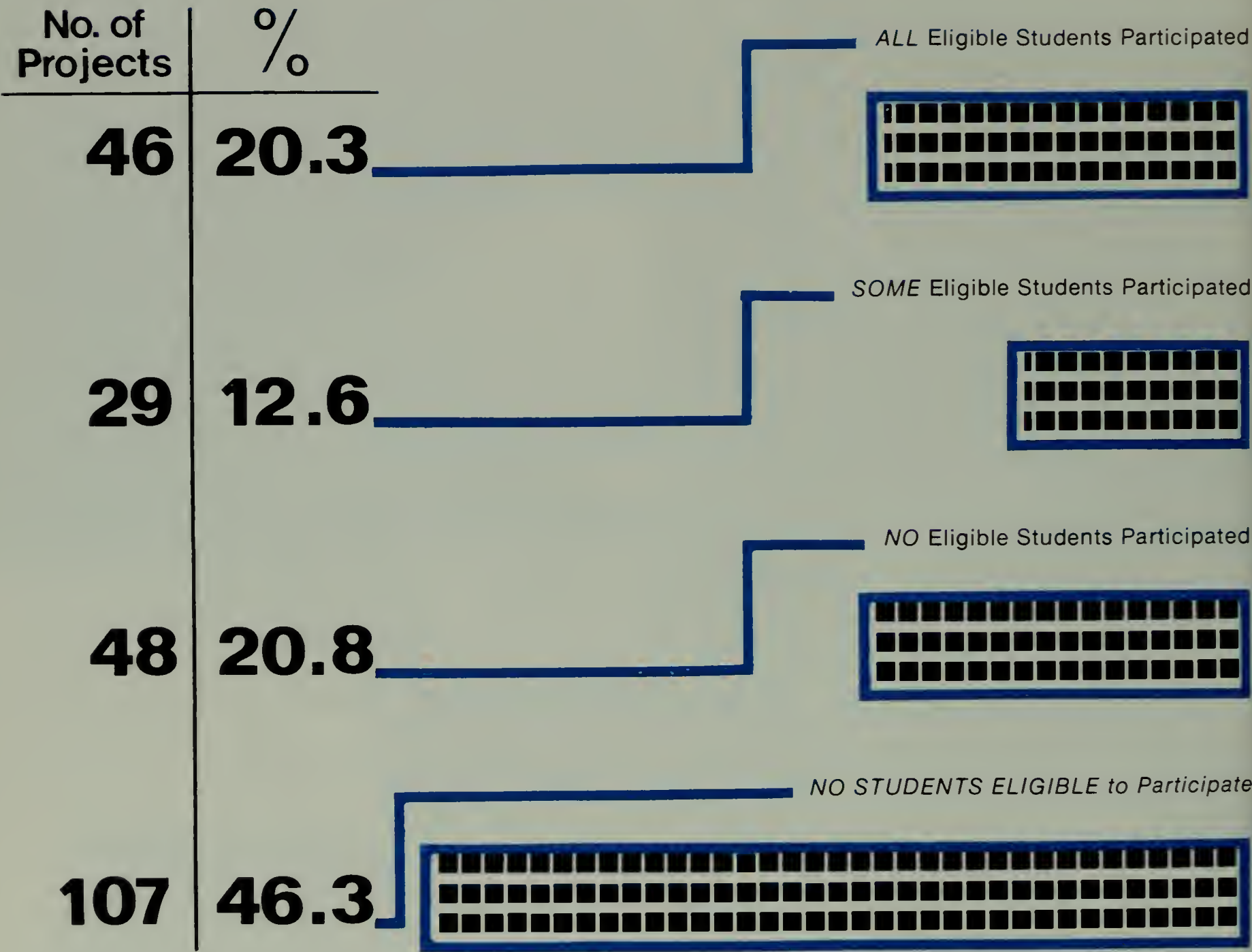
1. If the non-public school's educationally deprived children reside in an eligible public school attendance area;
 2. If the Title I services had not been provided previously by the private or parochial school;
- and*
3. If the nature and extent of the disadvantaged non-public school children's educational needs could logically be satisfied by the kind of educational services to be given to the public school children.

The following information concerning the participation of non-public school children in Title I programs is based on several different questions in the State's Title I evaluation questionnaire. The number of programs responding to each question varied. Consequently, the totals vary from one topic to the next. The reader should focus on the percentages presented, rather than the actual frequencies.

NON-PUBLIC SCHOOL STUDENT PARTICIPATION

Shown in **FIGURE 5** is the extent of participation of non-public school students in Title I projects. Of the 231 projects reporting, 46 Title I projects indicated that all eligible non-public school students took part in their Title I program and an additional 29 programs indicated that some of their eligible non-public school students participated within their programs.

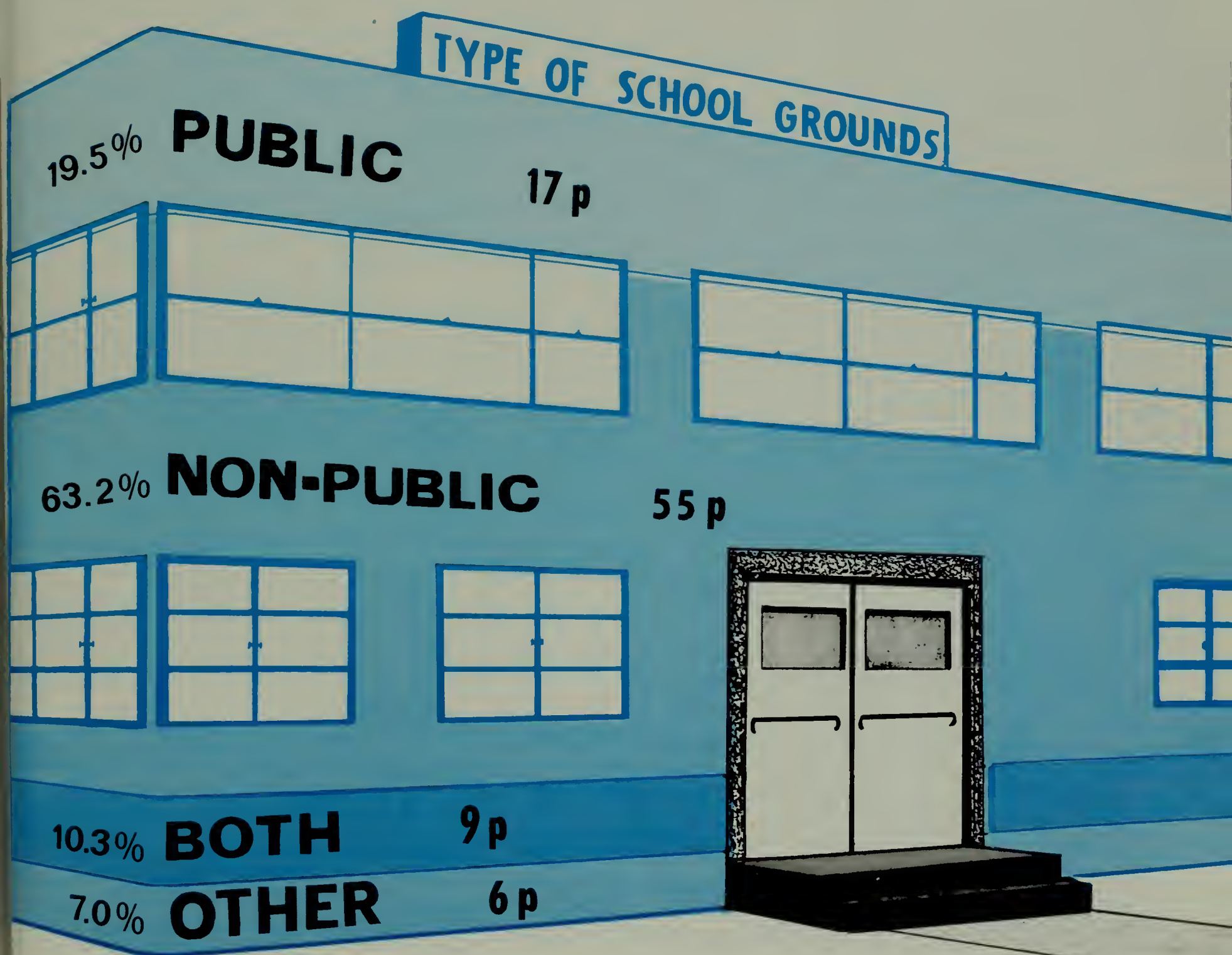
FIGURE 5
NON-PUBLIC SCHOOL STUDENT PARTICIPATION
EXTENT OF INVOLVEMENT*



*Based on 231 projects reporting

Information relative to non-public school student participation according to project location is provided in **FIGURE 6**. Seventeen projects (19.5%) attended by non-public school children took place on public school grounds *only*, 55 projects (63.2%) on non-public school grounds *only*, 9 projects (10.3%) on *both* public and non-public school grounds, and 6 projects (7.0%) at other locations.

FIGURE 6
NON-PUBLIC SCHOOL STUDENT PARTICIPATION
ACCORDING TO PROJECT LOCATION*



*Based on 87 projects reporting





Of the 81 projects reporting, 78 (96.3%) indicated that non-public school students began participation at the beginning of the Title I project, the same time as the public school children. [SEE TABLE IX]

TABLE IX
NON-PUBLIC SCHOOL STUDENT PARTICIPATION TIME PROJECT PARTICIPATION BEGAN

	NUMBER OF PROJECTS	PERCENTAGE
At the beginning of the project (same time as the public school children)	78	96.3
Near the beginning of the project (later than the public school children)	3	3.7
About halfway through the project	0	0.0
More than halfway through the project	0	0.0
TOTAL	81	100.0

Eighty-seven projects reported non-public school student participation according to the time of day they began. Seventy-nine (90.8%) noted that non-public school activities took place during the regular or summer school day. Only 1 (1.2%) reported that project activities took place after or before the regular or summer school day, and 7 (8.0%) took place at other designated times. [SEE TABLE X]

INVOLVEMENT OF NON-PUBLIC SCHOOL REPRESENTATIVES

The major activities and extent of involvement of non-public school representatives in Title I are depicted in **TABLE XI**. A majority of Title I projects reported that the non-public school representatives participated in planning the project design of 83 projects. The second area of greatest participation was in evaluation (65 projects). Thirty-nine projects reported that non-public school representatives helped in planning curriculum and materials.

TABLE X**NON-PUBLIC SCHOOL STUDENT PARTICIPATION
TIME OF DAY PROJECTS BEGAN**

	NUMBER OF PROJECTS	PERCENTAGE
<i>During</i> the regular or summer school day	79	90.8
<i>After</i> the regular or summer school day	0	0.0
<i>Before</i> the regular or summer school day	1	1.2
Other	7	8.0
<hr/>		
TOTAL	87	100.0

TABLE XI**PARTICIPATION IN TITLE I PROJECTS
OF NON-PUBLIC SCHOOL REPRESENTATIVES**

TYPE OF ACTIVITY	NUMBER OF PROJECTS INVOLVED
Planning Project Design	83
valuation	65
Planning Curriculum and Materials	39
Project Instruction and Services	36
Staff Training	22
Other	48
<hr/>	
TOTAL (Duplicated Count)	293

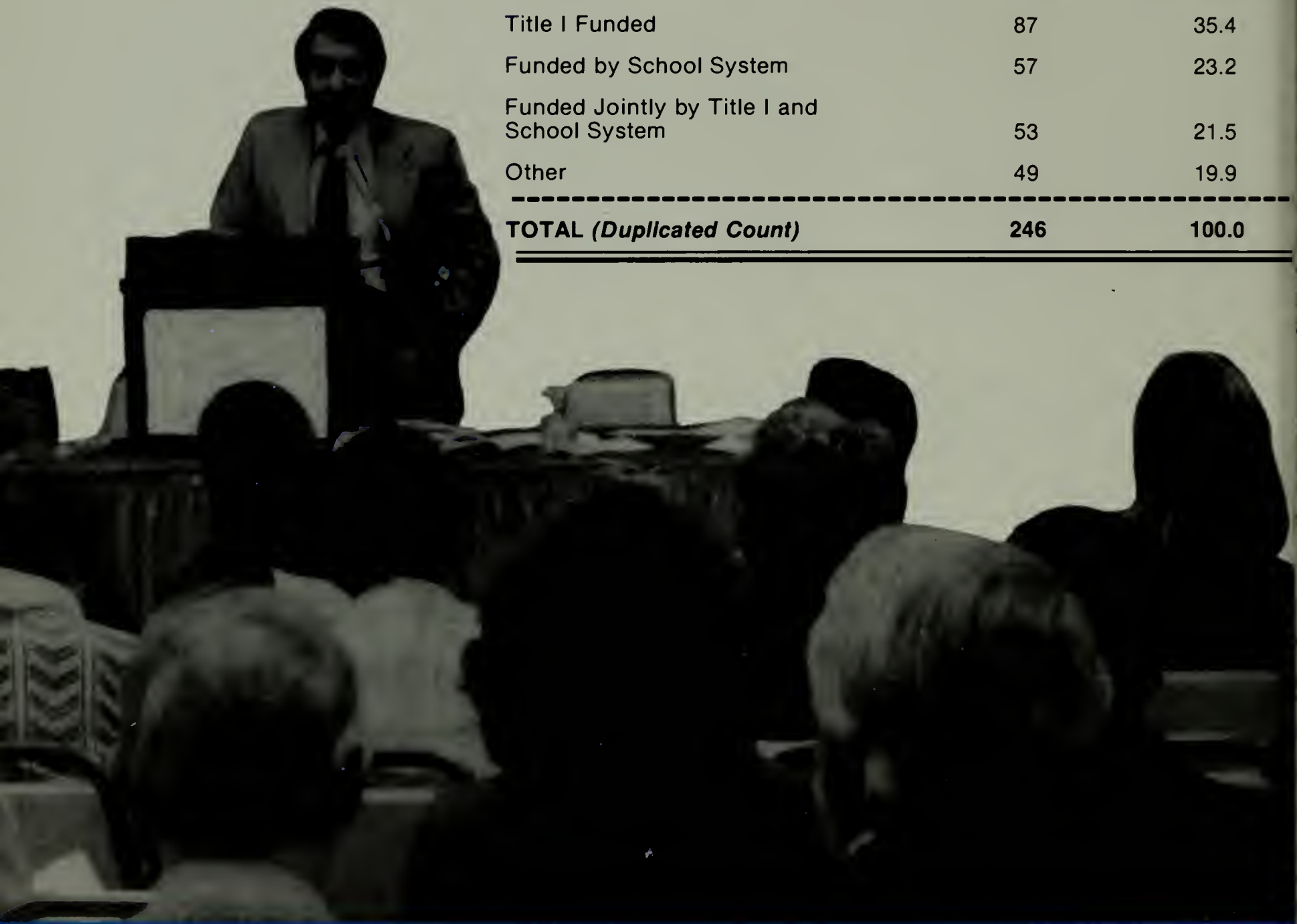
STAFF TRAINING

FUNDING OF TRAINING PROGRAMS

Throughout the Commonwealth, there were various sources of funds use for Title I staff development. Eighty-seven programs (35.4%) used Title monies solely for staff development, while 57 training programs (23.2%) were funded by the LEAs. Another 53 (21.5%) indicated that staff training programs were jointly financed by Title I and the LEAs. [SEE TABLE XII]

TABLE XII
FUNDING SOURCES OF
STAFF TRAINING PROGRAMS

	NUMBER OF PROJECTS REPORTING	PERCENTAGE
Title I Funded	87	35.4
Funded by School System	57	23.2
Funded Jointly by Title I and School System	53	21.5
Other	49	19.9
<hr/>		
TOTAL (Duplicated Count)	246	100.0



A description of the types of staff for whom the training programs were conducted is presented in **TABLE XIII**. Training for teachers and professional staff *only* were conducted in 75 projects. Approximately 41% (92) of the projects conducted *joint* training sessions for both teachers and teacher aides, while 17 projects provided training for teacher aides *only*.

PROFESSIONAL AND NON-PROFESSIONAL STAFF PARTICIPATION

TABLE XIII

TYPES OF STAFF-PROVIDED TRAINING

YPES OF STAFF	NUMBER OF PROJECTS REPORTING	PERCENTAGE
Teachers and Teacher Aides <i>Jointly</i>	92	40.7
Teachers and Professional Staff <i>Only</i>	75	33.2
Teachers and Teacher Aides <i>Separately</i>	30	13.3
Teacher Aides <i>Only</i>	17	7.5
Other	12	5.3
TOTAL (Duplicated Count)	226	100.0

Approximately seven out of ten of the sessions were conducted prior to and during the project operation; over one-fourth were conducted during the project *only*. **TABLE XIV** indicates when training sessions took place.

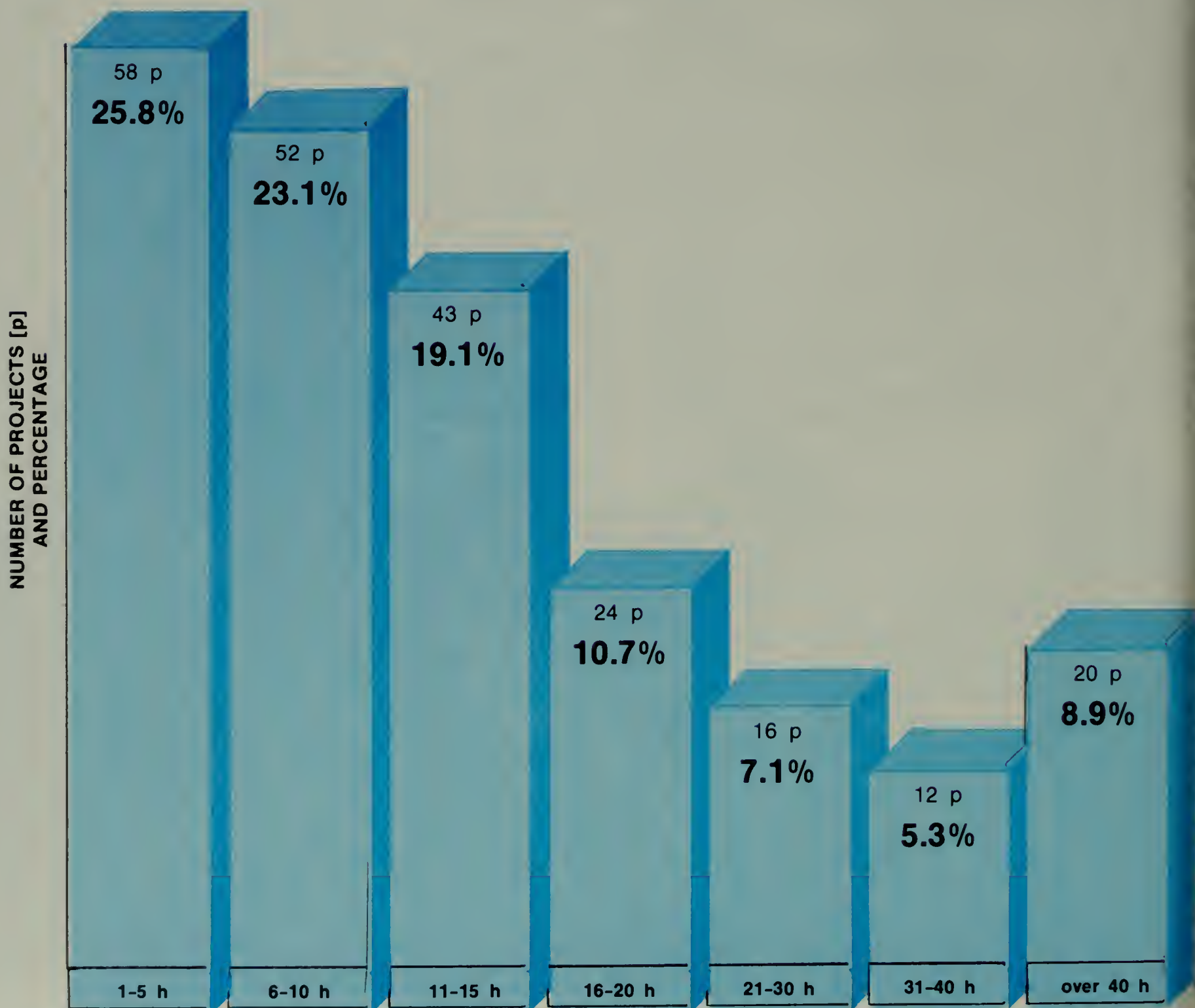
TABLE XIV

TIME OF STAFF TRAINING

TIME	NUMBER OF SESSIONS	PERCENTAGE
Prior to and During Project	154	67.5
During the Project Only	63	27.6
Prior to Project Only	9	3.9
Other	2	0.9
TOTAL (Duplicated Count)	228	100.0

The intensity of Title I training programs is summarized in **FIGURE 7**. Fifty-eight projects indicated that their training sessions operated 1–5 hours; 52 projects reported that sessions operated 6–10 hours; 43 projects noted that sessions were held for 11–15 hours; and 72 projects held sessions from 16–over 40 hours.

FIGURE 7
HOURS OF TRAINING RECEIVED
BY TITLE I STAFF MEMBERS*



*Based on 225 projects reporting



TABLE XV shows the types of personnel used to conduct staff training. Title I project directors were responsible for conducting the sessions in 86.2% of the projects reporting; local teachers and staff specialists conducted in 64.4% of the projects reporting staff training sessions; and over one-third of the projects noted that specialists from colleges and universities assisted with the training.

PERSONNEL CONDUCTING STAFF TRAINING

TABLE XV

PERSONNEL CONDUCTING STAFF TRAINING*

TYPE OF PERSONNEL	NUMBER OF PROJECTS	PERCENTAGE
Project Director	194	86.2
Local Teachers and Staff Specialists	145	64.4
Specialists from Colleges and Universities	78	34.7
Specialists from Industry and/or the Arts	15	6.7
Specialists in Medical and Psychological Services	29	12.9
Others	35	15.6

*Based on 225 projects reporting

The major topics covered in the training sessions for professional and non-professional Title I staff are presented in **TABLES XVI** and **XVII**. Orientation to Title I project was the most common topic for both groups. More than 49% of the projects reporting indicated their professional staff discussed the use and duties of teacher aides; the use of equipment and materials; and subject matter areas were other major topics for professional staff. Major topics for non-professional staff (over 69%) were subject matter areas; development of curriculum and teacher materials; and measurement, evaluation, and reporting.

MAJOR TOPICS OF TITLE I STAFF TRAINING PROGRAMS*

TABLE XVI			TABLE XVII	
PROFESSIONAL STAFF			TEACHER AIDE AND NON-PROFESSIONAL STAFF	
TOPIC	NUMBER OF PROJECTS	PERCENTAGE	NUMBER OF PROJECTS	PERCENTAGE
Orientation to Title I Project	152	67.6	197	87.6
Use of equipment and materials	111	49.3	143	63.6
Use and duties of teacher aides	112	49.8	104	46.2
Subject matter areas	116	51.6	174	77.3
Development of curriculum and teaching materials	95	42.2	165	73.3
Measurement, evaluation, and reporting	87	38.7	157	69.8
Project planning and design	69	30.7	140	62.2
Use of supportive services (counseling, medical, etc.)	39	17.3	69	30.7
Culture and psychology of the educationally disadvantaged	26	11.6	34	15.1
Diagnosis of learning disabilities	31	13.8	70	31.1
Other	19	8.4	14	6.2

*Based on 225 projects reporting

COMMUNITY AND PARENT INVOLVEMENT

er 98% of the 246 projects responding indicated that they had an active
e I Parent Advisory Council [PAC] during FY78. One hundred ninety-
ht (80.5%) reported that their PAC had served each Title I school. There
re 3,878 active parents involved in citywide PACs during FY78.

TITLE I PARENT ADVISORY COMMITTEE [PAC]

e composition of the non-voting membership of the PACs is shown in
TABLE XVIII. One hundred eighty-two projects indicated they had public
ool administrators as non-voting members on their PACs and 121 pro-
ms reported public school teachers were members of their PACs. Four
e I projects reported that students were non-voting members.

NON-VOTING MEMBERSHIP OF PAC

TABLE XVIII
NON-VOTING MEMBERSHIP OF TITLE I ADVISORY COUNCILS*

TYPE OF MEMBER	NUMBER OF PROJECTS	PERCENTAGE
public school administrators	182	80.9
public school teachers	121	53.8
parents of public school children served by Title I	112	49.8
parents of public school children <i>not</i> served by Title I	57	25.3
non-Public school administrators	37	16.4
parents of non-public school children served by Title I	39	17.3
parents of non-public school children <i>not</i> served by Title I	14	6.2
non-Public school teachers	21	9.3
school Committee members	28	12.4
Anti-Poverty Program representatives	15	6.6
Service Club representatives	7	3.1
students	4	1.8
other	15	6.7

Based on 225 projects reporting

EFFECT ON EDUCATIONAL ACHIEVEMENT

OVERVIEW: THE TITLE I EVALUATION AND REPORTING SYSTEM

During the past two years, Title I programs in Massachusetts have begun to employ a set of uniform procedures for conducting evaluations of the effectiveness in improving participating students' achievement in the basic skill areas. These procedures are collectively referred to as the Title I Evaluation and Reporting System [TIERS]. They include the selection of an approved evaluation design and the collection of achievement test scores for participating students according to a set of guidelines which support the validity of the selected design. At this time, the TIERS procedures apply only to the evaluation of Title I programs which operate in grades 2-12 and are restricted to student achievement outcomes in the areas of reading, language arts, and mathematics.

There are essentially three types of evaluation designs in TIERS which may be used by a Title I program to evaluate its effectiveness in improving student achievement:

- (1) *Model A*: the norm-referenced model,
- (2) *Model B*: the comparison group model, and
- (3) *Model C*: the regression model.

Each model may be used either with a normed achievement test or a non-normed test. It is also possible for a Title I program to use an approved alternative to the three evaluation models.

The three evaluation designs use a common definition of project impact in assessing the effectiveness of a Title I program in improving student achievement. The impact attributed to the project is defined as the difference between the Title I students' performance on a post-test and an estimate of what their performance, on the same test given at the same time, would have been had the students *not* participated in the Title I program. In other words, the project impact is the *observed* post-project performance minus the *expected* no-project performance.

$$\text{Project Impact} = \begin{array}{c} \text{Observed} \\ \text{Post-Project} \\ \text{Performance} \end{array} - \begin{array}{c} \text{Expected} \\ \text{No-Project} \\ \text{Performance} \end{array}$$

For all three evaluation designs, the observed post-project performance is always the average post-test score of the Title I project students. The estimated post-test performance without the project, or the expected no-project performance, is derived differently in each of the three designs.

Throughout FY78, nearly all Title I programs reporting achievement test results in accordance with IERS have employed the norm-referenced model. In this evaluation design the expected no-project performance is derived through comparisons with the achievement test publisher's national norms. The average pre-test score for the Title I students is compared to the distribution of scores obtained by the norm group at the same time of the school year. This comparison requires obtaining the *percentile rank* equivalent of the average pre-test score. It is assumed that the Title I students would have an

average post-test score at the same percentile rank if they had not participated in the project. Thus, the expected no-project performance is the percentile rank of the group's average pre-test score and the observed post-project performance is the percentile rank of the group's average post-test score. If the percentile rank of the average post-test score is greater than the percentile rank of the average pre-test score, the difference is attributed to the effectiveness of the Title I program. If the difference is zero or negative, the Title I program is said to have no positive impact.

THE NORM-REFERENCED DESIGN—MODEL A

The statewide analysis of Title I impact was carried out by aggregating the impacts or gains, defined above, across all reporting Title I projects. Since Title I projects vary in terms of instructional subject areas (reading, language arts, or mathematics) and grades (2-12), separate aggregations were performed within these categories. Also, the test administration schedule for pre- and post-testing may influence the type of results a project can expect to achieve. Therefore, separate aggregations were carried out for Title I projects using a year-to-year testing schedule, those using a fall-to-spring schedule, and those using an abbreviated schedule (less than five months).

In order to aggregate program impact across Title I projects, the percentile ranks of the average pre- and post-test scores for each program were converted to an equal-interval scale, known as the Normal Curve Equivalent (NCE). [The percentile rank is not an equal-interval scale because an increase in an equal number of percentile points at different locations on the scale represents different increases in test performance. Grade equivalent scales are also not equal-interval]. Expressing the impact of each Title I program in NCE units, thus, facilitated the aggregation of results from different programs.

The remainder of this section of the evaluation report presents the aggregated Title I project impact on student achievement in reading, mathematics, and language arts for grades 2 through 12.

REPORTING STATEWIDE RESULTS



TITLE I IMPACT: ACHIEVEMENT TEST RESULTS

TABLE XIX reports the number of Title I program participants for whom both pre- and post-test achievement test scores were obtained. The number of participants tested is presented for reading, mathematics, and language arts programs and for the different testing schedules employed to assess program impact. The vast majority of students tested participated in reading

programs (73.7%) or in programs using a fall-to-spring testing schedule (90.0%). Students in mathematics programs accounted for 22.2% of the total, while language arts program participants accounted for only 4.0%. Students in programs using a year-to-year testing schedule comprised 7.6% of all students tested and participants in programs using an abbreviated testing schedule accounted for only 3.4%. The achievement test results for students in language arts Title I programs or for students in programs using abbreviated testing schedules are not included in this report because of the small numbers of students involved.

TABLE XIX

NUMBER OF STUDENTS WITH PRE-TEST AND POST-TEST ACHIEVEMENT TEST SCORES IN SCHOOL YEAR PROJECTS, GRADES 2-12 FOR EACH SUBJECT AREA AND TESTING SCHEDULE

Subject Area	Testing Schedule			
	Fall-to-Spring	Year-to-Year	Abbreviated*	Total
Reading	22,749	1,835	106	24,690
Mathematics	6,560	713	154	7,427
Language Arts	491	0	878	1,369
TOTAL	29,800	2,548	1,138	33,486

*Abbreviated testing schedules were shorter than five months between pre- and post-testing.

IMPACT OF READING PROGRAMS

The aggregated statewide Title I project impact for students in reading programs is presented in **TABLES XX** and **XXI**. **TABLE XX** reports the NCE gains in grades 2 through 12 for projects which utilized a fall-to-spring testing schedule. **TABLE XXI** reports these gains for projects which employed a year-to-year testing schedule. Projects with a fall-to-spring testing schedule had an average impact of 5.6 NCEs, while those which used a year-to-year schedule averaged only 2.0 NCEs. For reading projects using a fall-to-spring testing schedule, the largest gains were made in grades 2, 7 and 12. For projects using a year-to-year testing schedule, the largest gains were made in grades 6 and 9. (Interpretations of these outcomes should be made with caution due to the small number of students involved at the secondary level.) In addition, students in Grade 2 reading programs using a year-to-year testing schedule demonstrated a loss of almost 6 NCEs. The reason for this decrease is unclear. However, one should note that the average pre-test score for this grade was considerably higher than the other grades. These students were pre-tested at the end of Grade 1. One might question the validity of the achievement tests used at this grade level.

In summary, **TABLES XX** and **XXI** indicate a definite positive impact of Title I reading instruction at almost all grade levels irrespective of the testing schedule employed to assess program impact.

TABLE XX

READING ACHIEVEMENT RESULTS FOR SCHOOL YEAR PROJECTS WITH FALL-TO-SPRING TESTING SCHEDULES—EXPRESSED IN NORMAL CURVE EQUIVALENT [NCE] SCORES

GRADE	NUMBER OF PROJECTS	NUMBER OF STUDENTS	NCE PRE-TEST MEAN*	NCE POST-TEST MEAN*	MEAN GAIN*
2	108	5,029	37.3	45.6	8.3
3	104	4,281	36.1	42.0	5.9
4	99	4,279	34.9	38.6	3.7
5	80	3,798	35.0	38.2	3.2
6	68	2,714	32.9	36.9	4.0
7	32	1,241	28.1	36.6	8.5
8	27	911	27.5	32.7	5.2
9	11	234	30.1	37.2	7.1
10	8	178	28.1	35.5	7.4
11	4	41	25.5	32.2	6.7
12	3	43	28.7	36.9	8.2
TOTAL	544	22,749	34.6	40.2	5.6

Weighted Average



TABLE XXI

**READING ACHIEVEMENT RESULTS FOR SCHOOL YEAR PROJECTS
WITH YEAR-TO-YEAR TESTING SCHEDULES—EXPRESSED IN
NORMAL CURVE EQUIVALENT [NCE] SCORES**

GRADE	NUMBER OF PROJECTS	NUMBER OF STUDENTS	NCE PRE-TEST MEAN*	NCE POST-TEST MEAN*	MEAN GAIN*
2	8	285	42.6	36.9	-5.7
3	9	245	35.8	38.7	2.9
4	9	384	35.2	36.6	1.4
5	8	256	36.2	39.8	3.6
6	8	205	33.1	36.2	3.1
7	3	251	31.3	38.2	6.9
8	3	173	29.1	31.0	1.9
9	1	36	34.0	44.0	10.0
10	—	—	—	—	—
11	—	—	—	—	—
12	—	—	—	—	—
TOTAL	49	1,835	35.2	37.2	2.0

*Weighted Average

TABLES XXII and **XXIII** present the aggregated statewide impact of Title I programs providing instruction in mathematics. **TABLE XXII** shows that positive NCE gains were demonstrated at all grade levels for programs using a fall-to-spring testing schedule. The overall impact was 7.8 NCEs. The greatest gains were in grades 3 and 7. (Grade 12 results were based on only two students.) **TABLE XXIII** reports aggregated program impact by grade for programs utilizing a year-to-year testing schedule. As in reading, the impact of these programs in mathematics was considerably less than for those testing fall-to-spring. The overall impact was, however, positive (1.9 NCEs). The greatest gains were made in grade 5. Again, a negative impact was observed in grade 2. However, as pointed out for the reading results, the average pre-test score obtained in grade 1) was considerably higher than at any other grade level.

IMPACT OF MATHEMATICS PROGRAMS

TABLE XXII

**MATHEMATICS ACHIEVEMENT RESULTS FOR SCHOOL YEAR PROJECTS
WITH FALL-TO-SPRING TESTING SCHEDULES—EXPRESSED IN
NORMAL CURVE EQUIVALENT [NCE] SCORES**

GRADE	NUMBER OF PROJECTS	NUMBER OF STUDENTS	NCE PRE-TEST MEAN*	NCE POST-TEST MEAN*	MEAN GAIN*
2	53	1,450	34.3	42.0	7.7
3	51	1,375	36.6	48.3	11.7
4	52	1,339	34.1	42.0	7.9
5	40	1,021	37.3	45.2	7.9
6	38	809	34.1	42.1	8.0
7	14	275	28.9	38.2	9.3
8	14	190	26.9	35.5	8.6
9	5	78	26.5	34.4	7.9
10	1	10	29.0	33.0	4.0
11	2	11	25.5	31.7	6.2
12	1	2	10.0	32.0	22.0
TOTAL	271	6,560	34.6	42.4	7.8

Weighted Average

TABLE XXIII
MATHEMATICS ACHIEVEMENT RESULTS FOR SCHOOL YEAR PROJECTS
WITH YEAR-TO-YEAR TESTING SCHEDULES—EXPRESSED IN
NORMAL CURVE EQUIVALENT [NCE] SCORES

GRADE	NUMBER OF PROJECTS	NUMBER OF STUDENTS	NCE PRE-TEST MEAN*	NCE POST-TEST MEAN*	MEAN GAIN*
2	2	146	45.3	35.7	-9.6
3	5	187	33.4	39.4	6.0
4	6	230	33.6	36.6	3.0
5	5	72	34.5	42.6	8.1
6	4	35	36.2	40.5	4.3
7	1	2	49.0	57.0	8.0
8	1	9	29.0	36.0	7.0
9	1	18	27.0	31.0	4.0
10	1	14	27.0	32.0	5.0
11	—	—	—	—	—
12	—	—	—	—	—
TOTAL	26	713	35.9	37.8	1.9

*Weighted Average



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